MONITORING THE CONSISTENCY OF FOX (*VULPES VULPES*) IN THE NATURAL RESERVE OF LAGHI LUNGO E RIPASOTTILE (RIETI): PRE REPRODUCTIVE DENSITY

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RISERVA DEI LAGHI LUNGO E RIPASOTTILE

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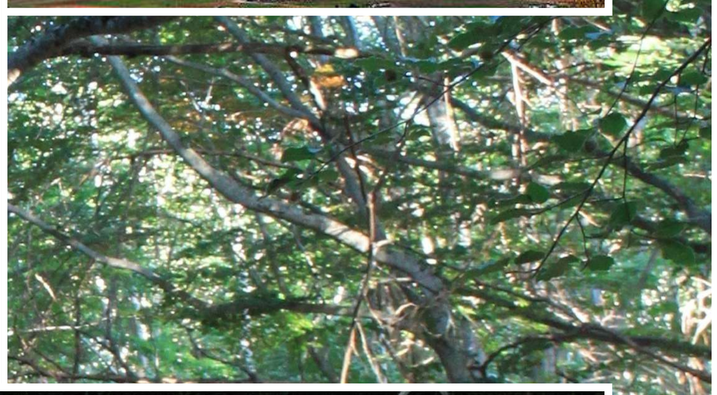
For more than a decade in the province of Rieti the Fox (*Vulpes vulpes*) was monitored in the Territorial Areas Hunting Rieti1 and Rieti2 (ATC). The attention of these institutions is due to the fact that the carnivore is a potential predator of species of hunting interest. The Lazio Regional Law 17/1995 (Art. 29, paragraph a) reports that the ATC should adopt three-year administrative schedules including the annual update of the status of the species of interest, and therefore also of the fox. To this end, both ATC have adopted a similar detection system based on the Spot Light Census of sample areas which, cover at least 10% of the area to be investigated. For this reason the population dynamics of the species are known in hunting areas and unknown in protected areas. Only in some cases episodic surveys on species were performed in protected areas. Prior to the drafting of the current three-year schedules, outside the Natural Reserve of Lakes Lungo and Ripasottile (RNLLR) the Fox underwent two specific numerical control programs. One made of 38 municipalities in ATC Rieti1 between 2005-2006 and 2009-2010, with a reduction of 2,093 heads (average 18.52 heads / common; S.D.=±17.37); the other made 34 different areas of ATC Rieti2 between 2006 and 2009, with a reduction of 1108 (average 11.28 heads / common; S.D.=±10.64). Subsequently, in the process of preparing three-yearly schedules, both ATC have set the target density 1.5 units / km², both for hilly areas and mountain.

So that, despite the considerable amount of removal, both ATC have established that the species is still numerically exuberant and in need of further containment. It is advised, also, that the RNLLR is completely flat and characterized by alternating cultivated areas, grazing meadows and riparian woodlands. In the area food sources of anthropogenic nature for Fox, as food waste and / or slaughter, are rare and occasional. It is in this general scenario that RNLLR considered it necessary to have to program and activate a suitable five-year plan of the carnivore monitoring consistency in its territory. In order to obtain comparable data with those of the ATC, also in the protected area of the Spot Light Census technique and the monitoring program applied provides that the detection sessions are systematically carried out in the pre reproductive periods, reproductive post, and subsequently to the eventual restocking activities carried out by ATC. Among the objectives of the monitoring, it is also to check whether there is migration of foxes to and from the RNLLR in conjunction with the repopulation of hunting species. Considering that the protected area covers approximately 3,000 hectares, the applied detection technique imposes to inspect at least 10% of the area, and that the spotlights covers 75 m to each side, were georeferenced approximately 12.5 km of routes in a GIS environment. In this way the total inspected area during each detection session is approximately 317.6 hectares, equal to 10.6% of the entire protected area. The substantial homogeneity and geomorphology of the area investigated topsoil has simplified the choice of routes, which are sufficiently straight and fixed in areas where visibility from the off-road vehicle box body used in the field of sessions is optimal.


Foto Maurizio Sterpi



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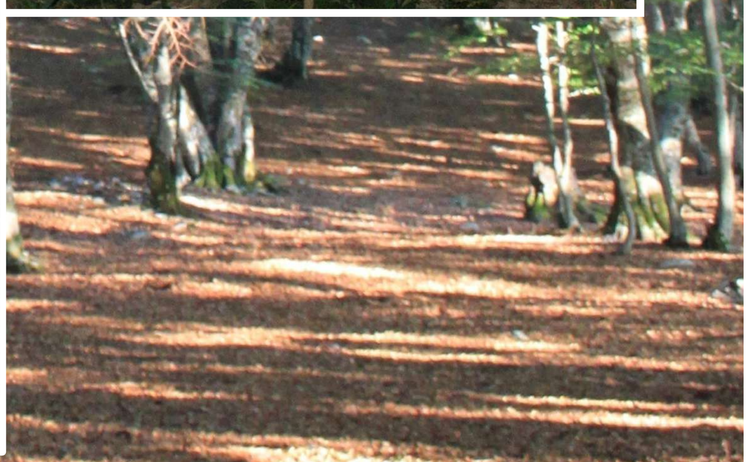

To contain the timing of field activities and counting errors, it has been established the simultaneous operation of two patrols of detectors, so that each of them should go through only half of the total planned route. After some simulation sessions, designed to detect and solve any problems due to the tracks (if necessary adapting them to the vegetation cover) and to develop the equipment to be used, between 27.10.2015 and 01.10.2016 (pre reproductive age) 4 survey sessions have been conducted, allowing to estimate an average density of 5.36 fox / km2 (S.D.=±12.26). The density of the species in areas outside the RNLLR, estimated in 2009 and 2011 by ATC Rieti2 Rieti1, was between 0.4 and 4.5 units / km². Since the density detected in the protected area is markedly higher than the estimated maximum fixed for the outside area, it is necessary to verify both the qualitative and quantitative aspects of the diet of the fox, the pressure of predation on the eggs, the chicks of bird species nesting on the ground and litters of other species, with particular attention to those of conservation concern.

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